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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/627,766	07/28/2003	Kaoru Hanawa	0505-1214P	4401
2292	7590	09/14/2004	EXAMINER	
BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747			SOLIS, ERICK R	
			ART UNIT	PAPER NUMBER

3747

DATE MAILED: 09/14/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/627,766	Applicant(s) HANAWA ET AL.	
	Examiner Erick R Solis	Art Unit 3747	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) ____ is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 2,5 and 8 is/are allowed.
- 6) ☒ Claim(s) 1,3,4,6,7 and 9-15 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>12/29/2003</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1,4,7,10,12 and 14 are rejected under 35 U.S.C. 102(b) as being anticipated by Ruman (US Patent No. 6161527). Ruman teaches an engine having a compressed air-assisted fuel injection system mounted on the cylinder head of an engine. A compressed air passageway (100) is formed within the cylinder head (108) for supplying compressed air from a compression cylinder to the injector. See the abstract, Figs. 2-5 and col. 5, lines 32-56. See also col. 4, lines 45-55. Inherently, the passage will be "in close proximity" to the exhaust port.

3. Claims 1 and 10 are rejected under 35 U.S.C. 102(e) as being anticipated by Liedtke et al (US Patent No. 6626160). Liedtke teaches an engine having a compressed air-assisted fuel injection system mounted on the cylinder head of an engine. A compressed air passageway (24) is formed within the cylinder head (12) for

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supplying compressed air from a compressed air source to the injector. See the abstract, Figs. 1-3, col. 1, lines 32-45 and col. 3, lines 12-18. See also col. 4, lines 45-55. Inherently, the passage will be "in close proximity" to the exhaust port.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 3,6, 9, 11,13 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ruman. Ruman applies as above, but does not explicitly teach the location of a cooling passage nor the relative location of the compressed air passageway in relation to the cooling passage or exhaust port. It would have been

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obvious to one of ordinary skill in the art to have made the compressed air passageway closer to the exhaust port than the coolant passageway so as to maintain a higher degree of pressure within the passageway due to the heat of the exhaust port.

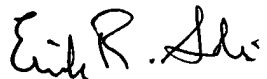
7. Claims 3,4,6,7,9 and 11-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Liedtke et al. Liedtke et al applies as above, but does not explicitly teach the relative location of the compressed air passageway in relation to an exhaust port. Liedtke et al does teach at col. 3, lines 12-18, the desire to maintain the air at an elevated temperature. Therefore, it would have been obvious to one of ordinary skill in the art to have oriented the compressed air passageway in whatever manner necessary to maintain the air at the desired temperature.

Allowable Subject Matter

8. Claims 2, 5 and 8 are allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Erick R. Solis whose telephone number is (703) 308-2651. The examiner can normally be reached on Monday-Thursday.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0861.


Erick R. Solis
Primary Examiner
Art Unit 3747

ers
September 13, 2004